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NUTRITIONAL ANEMIA IN INFANTS

REASONS FOR EARLY FEEDING OF PABLUM (OR PABENA)

1. The infant's initial store of iron is rapidly depleted during the first months of life. (Mackay,[1] Elvehjem[2]). About 30% of the iron freed from the hemoglobin during the first two months is lost, and while hemoglobin destruction takes place, all infants are in negative iron balance. (Jeans,[3] and Usher, et al.[4]).

2. During the early months of life the infant obtains very little iron from milk — 1.44 mg. per day from the average bottle formula of 20 ounces or possibly 1.7 mg. per day from 28 ounces of breast milk. (Holt,[5] Jeans[3]). The incidence of nutritional anemia has been found to be high among infants confined largely to a diet of cow's milk. (Davidson, et al.,[6] Usher, et al.,[4] Mackay[1]).

For these reasons and also because of the low hemoglobin values so frequent among pregnant and nursing mothers (Strauss,[7] and Gottlieb and Strean[8]), the pediatric trend is constantly toward the addition of iron-containing foods at an early age, both to normal infants and those with pylorospasm. (Neff,[9] Blatt,[10] Brennemann,[11] Monypenny[12]).

THE CHOICE OF THE IRON-CONTAINING FOOD

1. Many foods high in iron actually add very little to the diet because much of the mineral is lost in cooking or because the amount fed is necessarily small or because the food has a high percentage of water. Strained spinach, for instance, contains only 1 to 1.4 mg. of iron per 100 Gm. (Bridges[13]).

2. To be effective, food iron should be soluble. Some foods fairly high in total iron are low in soluble iron. Thus egg yolk and liver have less soluble iron than does farina, which is very low in total iron. (Summerfeldt[14]). Oxalate-containing leafy vegetables are low in soluble iron and appear not to be well utilized as a source of iron by infants. (Kohler, et al.,[15] and Stearns[16]).

3. **Pablum (and Pabena) are high both in total iron (30 mg. per 100 Gm.) and soluble iron (7.8 mg. per 100 Gm.) and can be fed in significant amounts at an early age, without digestive upsets. (Blatt,[10] Monypenny[12]). Clinical studies of sick and well babies have shown Pablum to be of value in raising hemoglobin values (Crimm, et al.,[17] Summerfeldt and Ross[18]), even when egg yolk and spinach were not effective (Stearns[16]).**

Pablum, a palatable mixed cereal food, vitamin and mineral enriched, and cooked thoroughly and dried, consists of wheatmeal (farina), oatmeal, wheat embryo, cornmeal, powdered beef bone, sodium chloride, alfalfa leaf, brewers' yeast, and reduced iron. (The oatmeal form of Pablum is called Pabena.)

[1-18]Bibliography on request.

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THE JOURNAL OF SCHOOL HEALTH

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SCHOOL-HEALTH COORDINATING SERVICE*

W. P. JACOCKS, M.D.
Raleigh, N. C.

The School-Health Coordinating Service is a joint organization involving the State Board of Health and the State Department of Public Instruction. One of its purposes is to bridge the gaps and to prevent the overlapping of health work done in schools. It is at present a unique organization, but interest in the work is being manifested by other States, if we interpret correctly the letters which reach our office and personal visits of responsible officials.

In the past both school departments and health departments have worked valiantly on their school-health problems and each group has had considerable success. In particular instances both have developed a system of procedure which is acceptable and effective. To those groups our activities would not be of great interest. But to the majority of school and health organizations this work is of importance and is worthy of receiving attention.

A main purpose of the School-Health Coordinating work is the training of teachers in a few health essentials in order that they may be able to cooperate more intelligently and hence more satisfactorily with the health departments. At the same time, the health officer wishes to know how he and his nurses and sanitarians can cooperate with the teachers towards obtaining the desired results. From these statements you will understand that our staff devotes a large part of its time in imparting information.

The work was first started in Stanly County in 1939. Activities were then carried out in succession in Orange, Chatham, Person, Durham, Alamance, Halifax, Wayne, Carteret, Washington, Tyrrell and Hyde. At present we are operating in Rocky Mount. In November we are starting work in Nash County; in January in Tarboro and Edgecombe County; in March in Greenville and Pitt County. Next year we plan to select a group of cities and counties in the Western part of the State to be visited during the school year. This group has not yet been selected.

*Read at the Thirty-third Annual Meeting of the North Carolina Public Health Association at Raleigh, N. C., October 26, 1943.

Our program for selecting counties is based largely on the interest manifested by the city and county school and health departments. We do not enter a county unless we receive a joint invitation. It is a pleasure to add that health and school departments have appreciated our efforts and are glad to have us visit their localities. Our plan is to carry out the work in all parts of the state.

Our field staff numbers nine: two doctors, three public health nurses, three health and physical education advisers and one nutritionist. Of this number, three are Negroes who work exclusively in the Negro Schools. The staff is supplied in part by the Department of Public Instruction and in part by the State Board of Health. We work with budgeted funds and do not ask for any contribution from city or county.

The instruction is three-fold: (1) Training at the Teachers Colleges; (2) Summer Conferences; and (3) In-Service Training. At the present time the training of teachers at the Teachers Colleges has been only slightly developed, but it is fundamental and will eventually become the key activity in this work. The Summer Conferences have been carried on for three years. They are important and ought to be continued indefinitely. In the past, fellowships have been available to teachers, nurses and others who attend the Summer Conferences. The instruction which is of most interest to health officers and which is our greatest present activity is the In-Service Training. Work of this character is being done in the city and county schools in conjunction with the local school and health departments.

In the schools we attempt by In-Service Training to lay a foundation in respect to such subjects as health service, health instruction and physical education. Each member of the staff has been assigned definite teaching subjects. We give our time to teachers in groups or individually, and in so doing we seek the aid of the local health department staff, including the health officer, the public health nurse and the sanitarian. We do not teach the pupils as we consider that that can best be done by the teachers.

The group assembled here today would find its greatest interest in the subjects of health service and health instruction and sanitation. In health service we endeavor by means of screening to separate those pupils who need a medical examination from those who do not require such attention. The separation of the children into two groups can be done readily by the teachers after instruction in screening by the public health nurses. By means of this procedure the health officer finds that he really needs to give a physical examination to only about ten to fifteen per cent of the pupils. The rest

either need no attention or have only minor ills which can be taken care of by the nurses, by the health department, or by the parents. After examination, the defects are listed. Defects which require specialized attention consist primarily of items relating to the eyes, ears, nose, throat and teeth. The correction of the defects requires attention. It is hardly necessary for me to mention to this group the difficulties which are experienced in getting this phase of the work completed in a satisfactory manner. The present arrangement of having the underprivileged children certified to by a responsible agency, usually the Welfare workers, is necessary. The local medical specialists generally agree to perform the corrective work at a reduced charge, and the payment can be made from funds supplied by civic agencies, such as Parent-Teacher Associations, Rotary and Kiwanis, supplemented by a small amount of funds from our budget. This arrangement is only a temporary expedient, and the correction of defects will not be established on a satisfactory basis until it becomes supported by the state or county in the same manner as local health departments and schools are now supported. We are working on this phase of the subject now, but it may not be solved until the end of the war.

In health instruction, we cover the subject of health habits, including eating, sleeping, resting, washing of hands before eating and after using the toilet, exercising, protecting others when coughing and sneezing and many other similar and well understood practices. These habits can be taught by teachers. In communicable diseases we stress the value of early recognition of coughs, colds, sore throat and similar early manifestations of infections, and the importance of early isolation of the children exhibiting these signs. The sequellae following diseases ushered in by these symptoms are dwelt upon. We do not ask the teacher to make a diagnosis; in fact we emphasize their lack of qualification to do so. We advise that when the above symptoms appear the child be isolated. The opinion of the health officer or the practicing physician should then be sought to determine what is to be done; that is, whether the child be allowed to continue in school or be excluded from school for a stated period. In addition, we explain some of the common communicable diseases, such as hookworm, malaria, tuberculosis and syphilis, and touch upon sex and mental hygiene.

Nutrition plays a large part in our work. Our staff member is well trained scholastically and practically. Instruction in the rudiments of selection of foods, their purchase, preparation, serving, is given to the teachers. If the schools have a lunchroom, at-

tention is given to it and the subject is thoroughly gone into with the manager. If the children bring lunches to school, these are examined, and suggestions are made to the children concerning the foods which a lunch should contain. Visits to the homes are made, and the mothers are informed about the quality and quantity of food which should be prepared for the children.

We feel that sanitation or, as it is now called Healthful School Living, is important. If it were possible to make the school house a model of what is required in respect to water supplies, drinking fountains, sewage disposal, heating, lighting, ventilation, recreation, beautiful grounds and playing fields, the schools would then become the real center of health in a practical way. We get good cooperation from high school students in this respect. In one school in Alamance County one high school class undertook all janitor services for the year. The principal said that the school and grounds had never been kept in such good order. The pupils have set a high standard for the janitor to follow when he resumes his duties after service in the army. This is a practical application of the teaching which was given in that school.

In addition to these means of teaching, we make wide use of films, some taken by our staff and some purchased from responsible sources.

An important development in this work, and one which will appeal particularly to health officers, is the suggestion of employing a local coordinator. When such a person becomes available, it will be his business to see that this work is carried out each year. It is our opinion that the coordinator should be a qualified physician attached to the health department to do school-health work. As all of you know, doctors will not be available before the end of the war, and in the meantime we are considering other educated persons, nurses, health educationists and teachers. It now appears that teachers are to be our best source of supply. We are now trying to find a group of teachers (they, too, are scarce) and give them special training in college for a period of nine to twelve months.

The activities which I have just mentioned represent the work which we are now doing. It is not a complete picture of what should be done by any means. I have not mentioned pre-school work, a large field and an important one. Mental health is neglected, so is sex hygiene; the quality of instruction could be and will be improved; closer working relations with county health departments will follow naturally; better arrangements for imparting

knowledge at Summer Conferences is needed; the selection of a curriculum and a faculty at state institutions for preparing teachers for their share in this work awaits attention; and the energizing leaven which will bring all agencies in the county to bear upon this problem is at work with good hopes for the future. I feel sure that School-Health work has great possibilities for good in the health of the school child, and I feel sure also that it will become a permanent part of the school-health work in this state.

* * * * *

Fire Extinguishers,—Freezing temperatures are dangerous to several common types of fire extinguishers, except to the vaporizing liquid, carbon dioxide, or loaded stream types. All others may freeze and be rendered inoperative and consequently dangerous to use, the Safety Research Institute, Inc., warns.

Soda-acid, foam and gas cartridge extinguishers must be kept in temperatures of 40 degrees Fahrenheit or above in order to prevent freezing. Anti-freeze chemicals should not be added to extinguishers of this type, as they may cause corrosion or change the effectiveness of the discharge. Anti-freeze chemicals supplied by the manufacturer may be added to pump, tank and gas cartridge extinguishers. No other should be added, however.

Suitably heated cabinets for use in subzero climates are suggested for protection of extinguishers. The National Board of Fire Underwriters specifies that such cabinets should be of 7/8-inch double wall construction and be heated by a continuously burning incandescent lamp of not less than 50 watts. Similarly heated single-wall cabinets are sufficient where temperatures do not fall below zero. School Management, Dec. 1943, p. 121.

* * * * *

School Buses,—School buses cannot be used to transport students to athletic games, to state or county fairs, or similar events, the Office of Defense Transportation recently announced in answer to a number of requests by school authorities to use buses for such purposes. Joseph B. Eastman, director of the ODT, made it clear that conservation of school buses and their proper use during the emergency is of vital importance. Only in the most urgent cases can replacement of such equipment be made.

Use of school buses is limited to the transportation of students, teachers, and other school employees en route between their homes and places of regular daily instruction. They may not be used for transportation of any special group to a special event nor can pupils be transported to and from home for the noon lunch. Ref. School Management, November 1943, p. 87.

THE MASSACHUSETTS VISION TEST*

(Educator's Standpoint)

LURA OAK, PH.D., AND ALBERT E. SLOANE, M.D.

The matter of vision testing and of visual hygiene has presented a curious anomaly in the evolution of the modern school. Progress here has lagged far behind advances in most other fields. It is an accepted fact that the success and well-being of each child in school is closely related to the function of vision, yet, for years no appreciable effort was made either by the school medical staff or by educators to evaluate thoroughly the visual efficiency of pupils or to question seriously the effectiveness of existing agencies for the care of eyes. This oversight has been the more conspicuous on the part of educators because they have been dealing energetically with related problems, such as checking mental ability and achievement, computing the costs of retardation, providing for individual differences, etc. Perhaps an explanation of the oversight may be found in the fact that educators have admitted ignorance regarding the complicated factors of visual function and have wisely hesitated to rush in where angels feared to tread.

In Massachusetts we have long needed an improved vision test. Our law requires the teachers to give a vision test annually to each child. Common practice has been that the teacher usually tested each child by means of a card, with the Snellen non-serif E. The nurse gave retests to all who failed, and she then sent notices to the parents of all who failed her retest, indicating that the child should be taken to the family eye specialist.

Before beginning the study which finally led to the construction of the MVT we made a survey of vision testing procedures in a sampling of schools throughout the Commonwealth. At the same time we sent out a questionnaire to departments of health in all of the other states of the Union. Upon both of these investigations it is possible here to give only a brief report.

From the questionnaire which was answered by 37 states, we summarized the following information. Some reports came from departments of education, others from departments of health:

In 13 states over 90% of all children receive a vision test annually.
In 3 states, only 20%
In 5 states, only 30%

*Read before the Annual Meeting of the American School Health Association, New York, October 12, 1943.

In 1 state, only 40%
In 2 states, only 50%
In 3 states, examinations are given by M.D.'s
In 21 states, examinations are given by nurses
In 10 states, examinations are given by home-room teachers
Snellen type, the only test in 27 states
Snellen type, and external examination—8
Commercial apparatus was reported used in certain areas but not to the exclusion of the Snellen.
In 25 of the replies, there were expressions of dissatisfaction with the methods used, or suggestions that new procedures were to be introduced.

During the course of our investigation of practices within Massachusetts, we visited many schools, observed testing, studied records. Our ophthalmologist examined large numbers of children. A skilled technician on our staff gave the Snellen test to children previously tested by the teachers. It was apparent that the school vision testing was falling far short of a reasonable standard.

We found both teachers and nurses quite uninformed on optical services. Many were neglecting their own eyesight. Very few knew how to distinguish a highly-trained, expert eye man. Most of those interviewed said they never questioned the correctness of a child's fitting, even when the child complained of increased discomfort. The teachers, particularly, did not know the visual hygiene of myopia or other types of eye difficulty. On the whole, it appeared that the whole problem of vision was irritating to teachers because so little was known about it among the school people and everyone was working in the dark. Here and there we found individuals who were actually attempting to get better vision testing done. Some were making studies of children whose lack of success in school appeared to have a relationship to inadequate vision.

A few educators have ventured a number of criticisms, pointing up the inadequacy of existing facilities for eye care and calling upon eye men to hear what teachers have to say. Teachers hold a strategic position for observing how children use their eyes and for noting inadequate behavior which possibly may be related to eyestrain. A number of comments made by teachers run somewhat as follows: the eye specialist may conclude from his examination that a given child's eyes should cause him no trouble, in view of, say, only a moderate degree of simple hypermetropia. He may decline to recommend glasses. The teacher, on the other hand, notices symptoms of fatigue, a dislike for reading, inattention. She be-

lieves the eyes are at fault. The observation of children's behavior in school suggests that while certain individuals easily compensate for moderate amounts of refractive error, others seem unable to do so. Tired, under-par children, particularly, are affected by very slight strains whether of eyesight or caused by other disturbances. They respond favorably when even minor strains are relieved. Arbitrary standards set up by some eye specialists for determining the treatment of borderline cases on the basis of an office refraction serve to prevent these particular children from getting a visual correction. Where the physician welcomes the teacher's report of the child's general school adjustment and considers its relation to any evidence of eyestrain, the child is benefited.

The teacher's attention should not end when the child returns from his examination, whether or not he was given a correction. It is not reasonable always to assume that upon the occasion of one visit to the eye specialist a child with visual difficulties or suspected visual difficulties, has had all the attention he needs. The pediatrist or the heart specialist maintains supervision of a case beyond one office call. When a child does not improve under the treatment prescribed, refuses to wear his glasses, or, if not given glasses, continues to show symptoms of eyestrain, these facts should be known to the physician by whom he was examined.

School vision testing has justly been criticized by the eye men. Some nurses and teachers have been overzealous in trying to diagnose, and overactive in talking to parents and others about the medical implications of this or that eye condition. As we attempt to do a better job in the schools, the function of lay persons should be more clearly defined. Until such time as provisions can be made for examinations of all children by qualified eye men, screening tests by lay persons provides the only alternative. We can give better screening tests in the schools. We can also develop interest and skill on the part of teachers and nurses in noting symptoms of possible visual handicaps. Here the medical men can help us. Most important of all, perhaps, is the imperative need to teach children to care for their own eyes. This is an aspect of health education which needs considerable elaboration. Educators are dependent upon the medical profession for guidance and cooperation in rendering the school program more effective.

In Massachusetts we are committed to a program of collaboration between the two groups: medical and educational. The Massachusetts Vision Test* was a joint undertaking. Whatever excellence it possesses from a medical viewpoint was the result of work

by Dr. Sloane, Dr. Lancaster, and other ophthalmologists who were consulted as the test took form. Whatever value it may have as a workable device in the schools resulted from the cooperative help of large numbers of teachers and nurses working with our staff, testing its practicability, using it under many conditions, criticizing it, and finally making it work.

The steps we have in mind for the state include the education of teachers-in-training as well as of those already in service. Our immediate concern is the introduction of the test into the schools and the supervision of its use. It is being manufactured by the Welch Allyn Company, of Auburn, New York. The cost is around $40.00.

Some of the details of interest to those who contemplate its use are the following:

The percentage of children usually screened out from a group is around 32%.

The time required varies from an estimated 5 minutes for a 5-year old or mentally immature child, to 1 or 2 minutes for an older child or one who fails the first test. In line with our effort to discourage attempted diagnosis by those at school, it is recommended that as soon as a child fails to pass any part, testing is discontinued.

It can be used by teachers or nurses or anyone skilled in handling children. Wide differences affecting the results exist among individuals. Some persons show special interest and aptitude. Those less skillful increase the number of those to be referred.

To give the test satisfactorily may require an hour or two of study and practice with several cases.

The kit is portable.

A skillful person can test about forty children in a half day under maximal conditions.

The test is practicable wherever an electric socket is available and a 20-ft. distance from chart to child.

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*The Massachusetts Vision Test goes farther than the ordinary test for visual acuity which employs only the Snellen card. Two other tests are included, one of which screens cases of latent hypermetropia, the other provides a check of muscle imbalance. This battery of tests offers no radical departure from the long-tried office procedure of the ophthalmologist. It is composed of familiar materials and techniques which have been adapted for use by lay persons. The rough screening accomplished by the Massachusetts Vision Test includes the borderline and doubtful cases, leaving diagnosis entirely in the hands of the eye specialist. The materials needed for the test are supplied by the Welch-Allyn Company, Auburn, N. Y., and are known as the Massachusetts Vision Test Kit. Instruction booklets and price lists are furnished upon request.

Dr. Sloane will agree with me, I believe, in insisting that the test is far from a perfect solution to the school vision testing problem. Its introduction will require supervision and hard work. We hope it will be criticized by those who use it and that improvements will be suggested and changes made from time to time as experience indicates. We trust that in undertaking to use it in the schools, educators will look to the medical profession for help in using it well and that the physicians will give the schools the help they ask.

* * * * *

Examination of the Feet of School Children. Chapter 71, Section 57, of the General Laws, Massachusetts, was amended by the Legislature at its last session by specifically adding feet as an object of examination by school physicians. For over twenty years the physical record forms prescribed by the Department of Public Health and the Department of Education have indicated that the health examination of school children should include items such as general appearance, skin, scalp, posture, teeth, disease of eyes and ears, vision, hearing, throat, nose, lymph nodes, lungs, heart, feet, spine and nervous system. For those school physicians who have been making the required examination, the revision of the law poses no new problems.

Some physicians fear that the law contemplates a detailed orthopedic examination. Such is not the case. The health examination as given in the schools is not, and cannot be, the type of examination given by a physician in his office. The chief purpose is to screen out those children who need a more careful examination by their private physicians.

Examination of the feet is, therefore, expected to be of the same type as the examination of any other part of the body—sufficient to detect trouble, active or latent, but not necessarily detailed enough for diagnosis.—New England Journal of Medicine, Oct. 14, 1943, p. 637.

* * * * *

Infantile Paralysis,—Present knowledge points to contact infection as the most important means of spreading infantile paralysis. This being the case, everything in human power must be done to prevent contact infection. Unquestionably there is need now for closer isolation than has been carried out in the past. The discovery of practical methods for detection of the virus and for determination of infectiousness on the part of the patient and of potential carriers is a task for the future, not to mention the possibility of finding means to hasten the destruction of the virus in the human body. Editorial, Journ., A.M.A., Dec. 4, 1943, p. 904.

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EDITORIAL

What effects is the war having on the home front? It is not our purpose to discuss the economic phase of these, even if we were competent—and we are not. Judging from the confusion that appears in print, it seems doubtful if anyone else is either.

What is happening to our children and youth? Fortunately we do not have the dislocations of family life and familiar environment that have been such grievous problems in Europe, including Great Britain, where the psychological effects as well as the physical ones have been enormous. Our children in this country and Canada have not had to suffer the translation to a new environment—from city to unaccustomed rural life, or even perhaps to a country overseas where, although the basic English is similar, all else is different.

Nevertheless our children have suffered serious derailments, if not wrecks, of routine care, advice, and protection, and of family life.

Fathers and brothers have been taken into the armed services, perhaps wounded or otherwise physically handicapped—or even killed.

Enormous migrations to get work in war industries have occurred, often just the reverse of the British city to rural change, since a huge proportion of our "war" workers have left the quiet and comparative social security of farms and villages to live in cities under conditions of crowding, noise, public transportation,

and daytime housing in high school buildings which hold more pupils than the total population of the home town.

Add to these changes the fact that not only the father, but often the older children and even the mother leave the home for the high wages these industries pay. The family income is greater than these people have ever dreamed of getting. In many cases this leads to a looseness of spending and of living that must shatter the ideals of the whole family.

The absence of both parents from the home, often at night, is peculiarly menacing. These "newcomer" children are thrown upon their own resources in a strange and often overexciting environment.

The flooding of these communities with rapidly increased and unaccustomed money is in itself a danger. Young people still in the imbalance of adolescence seek excitement with this money often to the enticement and betrayal of adolescent girls and even children.

Add to this the fact that professional workers in the fields of social welfare, recreation, and physical education have, themselves, been drawn into the armed services or related efforts needed to win the war, and we have a setup that is well-nigh ideal for the rapid, even terrifying, increase of "juvenile delinquency." The increasing delinquency is not all "juvenile" either.

The figures and their implications are clear, and we have definite ideas as to the causes. The treatment is not so clear. Numerous suggestions have been offered. There is time and space here for the mention of only a few.

More recreational facilities are needed. Of this there is little doubt, but what kind and where? There is ample recreation of a sort, but much of it creates additional menaces. It must be within moral, ethical, and financial bounds. More barrooms—enphemistically (in this state) called "taverns"—more night clubs, more "variety" shows are distinctly not needed. Can the community purse and intelligence devise and operate types of recreation that will appeal against the lure of these exciting diversions? These youngsters are young and eager, athirst for excitement. For the first time in their lives, oftentimes starved lives, they have large amounts of money—either earned or derived from parents.

Curfew laws have been suggested and are ordinances in many communities. Mostly they fail to reach any really worthwhile objective. Why? The people of the community fail to cooperate. One such rules on the books in these parts is that children under twelve years of age shall not be admitted to motion picture houses after 7 P. M. unless accompanied by an adult. What happens? The child

persuades some adult—a total stranger—to buy a child's ticket, the child providing the money. We have watched this evasion, and have yet to see any adult refuse to help the child to break the law. Suppose we do get them off the streets and out of the theatres, where are they to go? To an uncomfortable, often poorly heated tenement where there is no proper entertainment? To some place where these young adolescents congregate without proper adult supervision. You name the number and kind of safe and truly amusing places in your own community, and notice we have said "safe" and "truly amusing."

We end this editorial with a feeling of failure. All we have done is to criticize a situation which is becoming steadily worse as the results of neglect gathers circumlative force. This is one of the huge problems that the war has forced upon educational and social welfare groups, including the police and legal authorities. When we dig into the administrative and social phases of the problem we seem to come to a dead end. Not the least important factor is that our present adolescent children have never been taught self entertainment. When the radio, the motion picture, and the automobile are taken out of the program what have they left?—C. H. K.

ABSTRACTS

Schedule Fatigue In School Children* — The Joint Committee has received questions about two specific problems, both of which bear on the same general subject, namely, "schedule fatigue" in school children. One of these problems, briefly stated, has to do with a proposed session in a small city school system which will be of such length that children will have no opportunity to procure food between the hour of 7 a. m. and the hour at which they can reach home after a school session closing at 2 p. m. The other problem on which information was requested has to do with a schedule in which so-called extracurricular activities have been multiplied to a point where little time remains for the children to indulge in unsupervised play, pursuit of hobbies, loafing, or rest other than sleep.

With respect to the first problem, the salient points are as follows:

*The Joint Committee on Health Problems in Education of the National Education Association and the American Medical Association, taking cognizance of the problem of fatigue in school children and its possible unfavorable influence upon health, has authorized a sub-committee, consisting of W. W. Bauer, M.D., Glenville Giddings, Jr., M.D., N. P. Neilson, Ph.D., and George D. Stoddard, Ph.D., to prepare a statement which, having been approved by a vote of the entire Joint Committee, is presented herewith.

W. W. Bauer, M.D.
Secretary

Charles C. Wilson, M.D.
Chairman

The interval between meals is to some extent a habit as far as adults are concerned. This is not so with children. They require, in proportion to their size, much larger quantities of food than adults. They use up a great deal more energy. At the same time, their stomachs are small and they cannot eat large quantities of food. The emptying time of the stomach is two to three hours, depending in part on individual variations and in part on the amount of fat in the diet; diets high in fat require a somewhat longer time for digesting in the stomach. It is apparent that an interval of more than seven hours between breakfast and lunch would be the occasion for sensations of hunger in most children, amounting to discomfort in some and possibly accompanied by faintness in others. If children get hungry they will find some means of eating, and this will probably be candy and similar things which can be carried in their pockets.

Since hot lunches can be served with the cooperation of women's groups in the community at small expense and without elaborate facilities, we believe it absolutely essential that if prolonged sessions are necessary, suitable provisions be made for hot lunches.

It seems to us, however, that not only is the question of food to be considered, but also the question of fatigue. Young children, especially, should not have a continuous school session without interruption or rest. They require intervals of relaxation and change of occupation.

Unless provision can be made for a suitable interruption for lunch and for feeding children a hot lunch, or at least a hot dish, we could not look with favor on any proposal for a school schedule which would keep children in an uninterrupted session from approximately 8 a. m. or 8:30 a. m. to 2 p. m. This applies to all children, but especially to younger children.

Still another consideration in a proposed long session is that children leaving school at 2 p. m. and proceeding home may be fed as late as 3 p. m., at a time when the rest of the family is not lunching. They are likely to get a makeshift and inferior lunch at this off-schedule hour, or if they get a good lunch, their appetite for a normal dinner or supper may be impaired.

On the educational side it is hard to justify a continuous session six hours in length. A genuine recess, providing relief from scholastic tasks, would be long enough to include the hot lunch mentioned above. While an alteration of mental and physical activity is helpful in reducing tensions, there should be occasions for complete relaxation. This need is shared by pupil and teacher.

In addition to considerations already mentioned, a prolonged, continuous session involves the problem of fatigue, which is also

involved in the second suggestion, wherein homework and such activities as band practice, band concerts, dramatics and other so-called extracurricular activities become excessive.

*First, the Joint Committee recognizes that the term "extra-curricular" is, or should be, outmoded. So-called extracurricular activities are a part of the educational experience of the child, and in that sense they are not extracurricular, even though they may take place outside the regularly scheduled school hours.** In many schools, place is now being made for these activities in school hours, and homework is being minimized, especially for younger children.

* Italics are editorial.

It is now recognized that the school schedule should be so arranged that variety and alternation of activities are provided. Periods of desk or other confining study should be alternated with activities requiring exercise or bodily motion. The Victorian principle of complete silence and absence of motion in the classroom is outmoded, because the modern educator recognizes that activity is the essence of a child's life.

The problem of excessive crowding of activities into the life of a school child is one that faces many mothers and teachers. It must be adjusted in each community and for each child.

Children vary greatly in their needs for rest and sleep. They also differ in personal qualities. Some children tend to thrive when they are kept busy and under direction, or at least guidance; many retain these characteristics throughout their entire lives. Others are more individualistic and want to do things according to their own ideas. The best balanced personalities are those capable of accepting a reasonable amount of controlled group activity but capable at other times of successful independent action. Because of such individual variations it is impossible to prescribe maximum or minimum allowances of prescribed activity or schedule programs for all children.

If the child is doing well physically, is making good school progress and is happy with a heavy schedule, there seems no good reason to deny him the opportunity for participation. If, on the other hand, he is irritable, hard to get along with and not doing well physically or in school, it may be that an overloaded schedule is at least one reason which might explain the situation and should, therefore, be investigated.

An important consideration when children's programs must be limited is that limitation must be accomplished without setting the individual apart as "inferior" or even "different." The instinct to be like others is strong in children and especially in adolescents,

among whom it is practically a crime to be "different." Limitations of activity necessitated in special instances must be applied with tact and discretion, and whenever possible the initiative should come or seem to come from the child himself.

There is much possibility for misunderstanding between parents and educators with regard to progressive changes in education. Parents are prone to think of education in terms of their own school experiences and to resent innovations and changes. Time and attention should be given by school administrators and other school personnel to keep the channels of communication open between the school and the home in order that opinions, suggestions and criticisms may pass freely in both directions. Formal or informal conferences between the school and parent, or parent-teacher representatives, should be utilized freely for the discussion of curriculum fatigue and related problems. Ref. — Reprinted from Hygeia, March 1943, p. 238.

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Rheumatic Fever,—What can the pediatrician do about increasing the effectiveness of the school in the control of rheumatic fever? He can make a start by securing the cooperation and action necessary to find the answers to these questions. How much rheumatic fever exists in the community? What role is the school playing in the discovery of children with rheumatic fever? Is the school service organized to follow up known rheumatics? How reliable is the school physician in the selection of children with cardiac defects? In a small community, a pediatrician may have to take the initiative single handed. But in larger communities the problem can better be solved by group action. The first step might be to raise these questions with several other physicians, including the health officer, and determine on a plan to be presented for discussion with the school superintendent. A practical way to determine the magnitude of the rheumatic fever problem in the community is through a school survey. This might be discussed with the school superintendent. Finding cases of rheumatic heart disease is only one measure of the magnitude of the problem, to be sure, but it would form the basis for further steps in developing a constructive program. This, unfortunately, as was said earlier, is where most surveys have ended. It should be only the starting point in developing a school health program which will be based on known facts concerning the nature of rheumatic fever.

Because these facts are not widely known, few school health services today are prepared to participate in an adequate rheumatic fever case-finding program. The school health service has been primarily concerned with finding cardiac defects. This, with our

present knowledge of rheumatic fever, and from a possible preventive point of view, is putting the cart before the horse. It is not necessary to minimize the finding of cases of rheumatic heart disease, but more emphasis must be placed on developing procedures to discover children who may show signs and symptoms of rheumatic fever; to place these children under medical observation whenever necessary; and to prevent—as far as possible—those who have had an attack of rheumatic fever from developing a recurrence of the disease. Such procedures will be possible when teachers and school nurses understand the manifestations of rheumatic fever, its chronic recurrent nature, and the possible danger to rheumatic children of respiratory infections. More attention must be given to a family history of rheumatic fever. All children from so-called "rheumatic" families should be examined carefully. Finally, the school physician should be allocated time to give consulting service to the nurse and to the teacher whenever they suspect children of having rheumatic fever.

Teachers have a rare opportunity through morning inspection and observation of children throughout the day. It has been demonstrated that with medical guidance teachers can become efficient in selecting children in need of medical attention.[6] This development of the teachers' alertness in regard to pupil health is more important than ever today because there is even less medical service available in the schools. Teachers must be prepared, and their interest sustained, by inservice courses and experience with clinical material. The purpose of this instruction is not to teach diagnosis, but to develop understanding of normal appearance and behavior and the signs and symptoms associated with illness. This preparation of classroom teachers requires the understanding and cooperation of the school superintendent. He must provide time, and the interested pediatrician must assist with the preparation of teachers. This is not a new kind of health service. I am simply proposing that medical aid be given teachers to improve their powers of observation. This kind of teacher-alertness and health supervision, operating in every classroom from day to day, is necessary if the teacher is to function effectively in bringing to medical attention possible cases of rheumatic fever.

Necessary also, if the school is to function effectively in case-finding, is a consultation service for the physician when he suspects a cardiac condition or rheumatic activity. There are several school systems where this type of diagnostic service is available. In 1940

6. Nyswander, Dorothy B.: Solving School Health Problems, New York, Commonwealth Fund, 1942.

the New York City Health Department instituted what is called the Cardiac Classification Service to diagnose children suspected of heart disease by the school physician. This service has proved to be extremely valuable.[7] It functions to provide a more accurate diagnosis of the cardiac status and serves to educate school physicians in the recognition of rheumatic fever and rheumatic heart disease. A special feature of this service is its availability to family physicians for their school-child patients. That private physicians would welcome such consultation service was one of the first discoveries of the Astoria School Health Study.[6] Early in that study it became routine procedure to follow up personally the preliminary diagnosis in order to get acquainted with the physicians in the community and to offer the consultation service. Some of these diagnoses were vague and gave little information to the school. A factor in the poor reporting was the form used by the school. It was found that this form was considered too complicated and demanded too much irrelevant information by 90 per cent of the group of 300 private physicians. A more practical and acceptable form was introduced, based on the Standard Nomenclature of the American Heart Association.

A summary of the Astoria developments, with respect to rheumatic fever and heart disease, may be suggestive to the pediatrician concerned with developing the potentialities of his community school health program.

1. The diagnostic nomenclature was standardized to conform to the American Heart Association classification.

2. Diagnostic services were established for the school physician and, on request, for the private physician.

3. The importance of regular medical supervision of known cardiac children was stressed.

4. By personal contacts and improved but simplified reporting forms, the relationship between school and treatment agencies was strengthened.

5. The importance of rheumatic fever as the cause of the majority of cases of heart disease in children was emphasized so that teachers, nurses, and physicians in the school would be on the alert to recognize the early signs of first, as well as recurrent, attacks.

6. Less reliance was placed on codes, symbols, and labels on records in the hands of non-professional staffs, and more emphasis was placed on explanation, interpretation, and guidance as the best

7. Twelve Months of Health Defense: Annual Report of New York City Department of Health, 1940.

method of improving the understanding and care of children with rheumatic heart disease.

Cincinnati and Rochester,[8] to my knowledge, have diagnostic service somewhat similar to New York City. As an illustration of the value of the examination by the cardiac consultant is the report of Wilzbach,[9] based on examination of approximately 2,000 Cincinnati high school youths. They were examined first by school physicians. One hundred and forty-one individuals were classified by the school physician as having cardiac defects. When the boys were reexamined by the cardiac consultant, only 29 were found to have heart disease. This diagnostic service is certainly necessary for the school physician and might prove acceptable to other physicians in the community. It is not unlike the consultation service which many communities now have for the diagnosis of tuberculosis, the value of which was first demonstrated in Framingham many years ago in the control of that disease.[10]

Aside from problems associated with the school there are many other aspects of the rheumatic fever problem in his community which merit the pediatrician's attention. For example—how adequately are cases being treated in the community? Are children kept in bed for a sufficient length of time? Are there enough hospital beds for the care of rheumatic children during the acute stage? Are there enough suitable facilities so that children can receive care for a sufficient length of time? If facilities for long-time care are inadequate, are there institutions which might be converted for that purpose? Or are foster homes available? Would it be more practical as an operational policy to develop foster-home facilities? What is the quality of care being given in institutions and foster homes, particularly with respect to the education of children and their mental hygiene? And last, but most important, what efforts are being made in the community to coordinate the various agencies interested in the care of children with rheumatic fever and rheumatic heart disease? Potentialities in the School for Rheumatic Fever Control. George M. Wheatley, M.D., New York City. N. Y. State Journal of Medicine, Oct. 15, 1943. Abstracted by C. H. Keene, M.D.

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An Epidemic Of Ringworm Of The Scalp. An unusual incidence of ringworm of the scalp was reported in November, 1942, by a nurse in one school of a health center district of 240,000 popu-

8. Personal communication from Dr. Albert D. Kaiser.
9. Wilzbach, Carl (Commissioner of Health): Paper read at the Annual Meeting of American School Health Association, Cincinnati, 1942.
10. Framingham Monograph No. 10. IV. Final Summary Report, 1917-1923, Inclusive. Framingham Community Health and Tuberculosis Demonstration of the National Tuberculosis Association, July, 1924.

lation. While a few sporadic cases of this disease have usually been recognized each year in a district of this size, no epidemic was anticipated. The experience is reported because it seems so similar to the reports of the problem in England and Europe where the disease has caused great expense and loss of school time.

Ringworm of the scalp in children may be generally suspected when there are localized scaly patches; short, stumpy, broken off hairs; various degrees of inflammation. The special character of the disease is the presence of broken hairs scattered over patch-like stubble. There are several possible causative organisms in ringworm of the scalp. In a given case the organism should be identified by laboratory culture before treatment is instituted, since some types of infection are curable by one means while others may require a different method of treatment.

The spread of the disease raised the question whether the organism causing the disease was different from the infection that had usually appeared in this city as sporadic cases. Dermatologists advised that scalp infections with this organism are very resistant to treatment except when X-ray epilation (roentgen ray treatment to remove hair) is available. It was then recognized that X-ray epilation and laboratory facilities were necessary for adequate treatment and more intensive case finding with the Wood's light (ultra-violet ray with Wood's filter) was essential for adequate control.

In each school where clinical cases had been recognized, the nurse was readily trained by the dermatologist to spot the characteristic fluorescent appearance of the infected hair under the light. Even a single infected hair could be recognized after observing a few cases.

While good case finding facilities are essential, that is only half the battle. A follow-up service that never rests until the case is free from infection demands more than ordinary skill, tact, and cooperation with community recources. Many cases of X-ray epilation have been found to be unsuccessful because of insufficient dosage and a failure to cause a complete defluvium or loss of hair of the scalp. The treatment following the loss of hair often requires manual epilation under the Wood's light as the regrowth of hair begins. The follow-up after epilation then must be very active in order that any remnants of the infection may not be neglected. Before epilation, the follow-up must be just as active in order that the progress of the disease may be watched.

While the infection was no doubt spread through many kinds of personal contacts in and outside of the home, the education of

the parents seemed to be the only practical means of minimizing these contacts except as treatment of the known cases was carried out until free from infection. Mimeographed instructions were used to supplement the teaching of the nurse and teachers concerning the precautions that should be taken by each patient.

The follow-up center served both as a liaison with the practitioner and a guidance service to the parents. While there was no problem of continuing treatment when the physician had the full confidence of the parent, the resistance of the infection to treatment raised a serious question of education to maintain that confidence. The most difficult problems occurred when the parents reached that stage of discouragement and lack of faith in medical service that they sought quack, pseudo-scientific, and superstitious forms of self-medication or gave up the treatment entirely. These cases made clear the importance of the relationship between the patients and their physician. To foster this relationship, parents were given letters to their physician from the health department follow-up center and were told of consultations between the health department physician and their own physician. They seemed encouraged to learn that the health department staff and their physician were able to work together to control the infection. The physicians invariably accepted the health department responsibility for deciding when a case was free from infection. While some misunderstandings arose from delay in presenting to them all the facts, they gave their wholehearted cooperation when they understood the epidemic character of the problem.—Briefed by Gertrude E. Cromwell, from An Epidemic of Ringworm of the Scalp by Harold H. Mitchell, M.D., Laura S. Story, R.N., and Jane C. MacDonald, R.N., in Public Health Nursing, October 1943.

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Observed Effects of Wartime Conditions on Children,—This study is No. 52 in a series, *British War Psychiatry,* based on the observations of several Child Guidance Clinics, schools, unbilleted children living under Emergency Hostel conditions, and of six evacuated young children living under the freest conditions.

The general thesis is that evacuation, even under the best conditions, has caused more emotional disturbance in children than air raids and actual bombings. One reason for this is the difficulty experienced by both children and adults in making any stable adjustment to a situation which everyone hopes is to be of short duration. Nevertheless, evacuation has been an experience of immense social value to the country, and it has provided evidence of the realities of social stratification. For many children it has held dreams of romance and adventure, of new vision, and of fresh air,

illustrated by the long list of children who applied for overseas evacuation. The draw-backs of the break-up of the family are expressed in the child's loss of emotional security, particularly his feelings of love and aggression. This is evident in the after-effects of evacuation on children upon their return home and on children living in Emergency Hostels.

Unfortunately, opportunities for expression in some of the Hostels are lacking. They have no one person to rely upon for love and affection, and in most they are cruelly starved of all play material. Observation of the six evacuated children and others showed that one of the consequences of evacuation was an increase of concentrated fantasy play and a display of terrific satisfaction in their performances. There was a higher incidence of eneuresis in all ages of children. Anxiety of evacuation conditioned a recurrence of this symptom which is being mistakenly treated through the medium of fear.

The great majority even of clinic children, and almost 100% of children seen under normal school conditions, show no overt symptoms through the mal-effects of enemy action. Children are more accustomed to dealing with fear than adults. Only in situations which they do not understand and do not face, does it become an anxiety and cause serious maladjustment. Where war conditions have given rise to real anxiety in a child, it can be traced back to the fear shown by the adults concerned.

A study of children's drawings indicates that the child has largely coped with the war situation which is confirmed by free play and observations of children during play therapy.

The break-up of the family through fathers joining the Forces and mothers leaving home to go to work has in many cases resulted in a deterioration of social behavior and discipline in the child leading to delinquency. The ill-effects of wartime conditions on children are chiefly those caused through the break-up of the family, particularly the lack of parental discipline. Children have been put to the test of leaving home and security much earlier than is normal and as a result behavior has been less mature. Henshaw, E. M. In Mental Hygiene, 2:93-98, October, 1941. Abstracted by Frederick L. Patry, M.D.

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Chicago Builds Health,—What is being done in the schools of Chicago to prepare its boys and girls for the war emergency as well as for future peace is described in an article by Dr. William H. Johnson, superintendent of Chicago public schools in the Chicago Principals' Club Reporter. Better health and physical fitness is stressed.

All Chicago schools now give five periods of physical and health education a week instead of three. Each elementary school has a special health counselor in addition to the regular teacher of gymnastics. The counselor's duty is to instruct pupils in the rules and practices of good health.

Almost all elementary pupils are enrolled in the American Red Cross Junior First Aid Course. Volunteer duty after school supplements the regular First Aid classes.

More emphasis is put on walking, running, apparatus work, tumbling and combative exercise, as well as group games. Children are being taught to compete with one another according to set rules, with regard for playground law and decency—a step toward good citizenship.

Intramurals are scheduled both before and after school hours in the high schools. Round robin tournaments are popular because they provide the greatest amount of participation. Clubs for hiking, bowling, skating, and bicycling have increased in number. Groups calling themselves Rangers or Commandos have sprung up. Obstacle courses are a part of their rigorous schedule.

Of Chicago's 41 high schools, 38 have swimming pools. Almost every student is being taught to handle himself in the water. Many have already passed the life-saving tests.

The city playgrounds, under the sponsorship of the Board of Education, are promoting the physical fitness program. Tests prepared by the O.C.D. have been taken by 3500 boys and almost an equal number of girls.

Dental and medical examinations are given periodically. Free dental care has been furnished to a large number of children. There have been extensive eye and ear tests, and in a period of four years about 40,000 children have received special treatment for vision and hearing.

Special teacher-training courses are being sponsored by the Department of Physical Education so that teachers may keep up to date. School Management, Dec., 1943, p. 115.

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TB Among Freshmen—The Tuberculosis Committee of the American Student Health Association has recently completed a study of freshmen students in 12 eastern and southeastern colleges. Of the 7,452 freshmen who were tuberculin tested, 19.4 per cent showed positive reactions.

As in earlier surveys, more male students reacted positively than did female students. Among the male freshmen, positive re-

actors numbered 21.3 per cent, compared with 16.0 per cent among the females. This finding is always of interest because the tuberculosis death rate among females 15 to 19 years is much higher than among males in the same age group.

When both sexes are considered, no significant difference is found in the percentage of positive reactions among freshmen who had been graduated from private preparatory schools when compared with those from public high schools.

This finding refutes the theory long held by certain educators to the effect that few or no students of private secondary schools have been exposed to tuberculosis. An allied contention that private school students are less susceptible to the disease is also disproved by this study.

A slightly higher percentage of positive reactions was found among female students from private preparatory schools than among male students who entered college from secondary schools of this type. Positive reactions were much more numerous among girl graduates of private schools than among those from public high schools.

In the case of male students the percentage of positive reactions was somewhat higher among public high school graduates.

The size of the home community of the student seemed to be a negligible factor in the number of positive reactions found.

Only four active cases of tuberculosis were discovered among the 7,452 students who were tuberculin tested. In addition, 18 freshmen were found who had suspicious tuberculosis and six were diagnosed as healed. Bulletin National Tuberculosis Assn. Nov., 1943, p. 180.

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REVIEWS

School Physicians' Manual For Los Angeles City School District. School Publication No. 390, 1943.

This Manual, with a foreword by V. Kersey, Superintendent of Schools, and an Introduction by C. Morley Sellery, M.D., Director, Health Service Section, is a splendid example of what a public publication should be. Preceded by a fifteen-page precise and complete index, its ninety-four pages give clearly and definitely the Los Angeles concept of the school health services (and in that city Corrective Physical Education is conceived and administered as a part of health service) and the exact regulations and procedures designed to bring about health protection and improvement for the school pupils of that city.

A list of the chapters gives a fairly good idea of the scope of the Bulletin:

Chapter	I	The School Health Program. Followed by a Bibliography
Chapter	II	Physicians' Assignments, Hours, Duties, Etc.
Chapter	III	Physical Examination of Pupils
Chapter	IV	Communicable Disease Control
Chapter	V	School Sanitation
Chapter	VI	Regulations Relating to the Responsibilities and Privileges of School Physicians
Chapter	VII	Procedures Pertaining to Pupil Health and Protection

Subheadings in each chapter make the sub-divisions stand out conspicuously.

Not the least of its merits is the fact that it is in loose-leaf form so that revision of any part is possible without reprinting other parts—an economy provision worthy of following.

The Los Angeles City Schools, the Board of Education, the Superintendent of Schools, and the Director and personnel of the Health Service Section are to be congratulated on a splendid production.—C. H. Keene, M.D.

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"Health Instruction Yearbook 1943," by *Dr. Oliver E. Byrd,* Stanford University Press, Stanford University, California, price $3.00.

Dr. Oliver E. Byrd, Associate Professor of Hygiene and Director of the Division of Health Education in Stanford's School of Health, who compiled and edited this unique publication, is to be congratulated on having met a real need in the health education field. School physicians, nurses, health officers, and all teachers of health education will find in this book just the material they need for addresses to lay audiences on almost any phase of health.

The yearbook will also be exceptionally valuable to instructors in the health field in schools who have been making sincere efforts to put flesh and blood on the dry bones of personal hygiene. It contains authoritative references to the latest information on health matters of current public interest.

There are excellent chapters quoting present day authorities on such vital health matters as, health as a social problem, nutrition and health, occupational health, venereal disease control, heredity and eugenics, and health problems related to the war. The book is rich with up-to-the-minute statistics which will save you hectic hours of search through your records and clippings. The book has an excellent bibliography and index.—C. Morley Sellery, M.D.